



UNDERSEA WARFARE TRAINING RANGE

DRAFT ENVIRONMENTAL IMPACT STATEMENT

***Presented To:
North Carolina General Assembly
Joint Legislative Commission on
Seafood and Aquaculture
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Overview of EIS Process

- **Purpose and need**
- **Proposed action**
- **Alternatives**
- **Environmental analyses**
- **Mitigation and monitoring**
- **Public comment**

Anti-submarine Warfare is Critical

- **Submarines still pose a threat to seaborne forces**
- **More than 90% of joint military equipment (Army, Air Force, Marines) still flows by sea**
 - **This is not merely a Navy problem, it is an American security problem**
 - **Great deal of humanitarian aid (tsunami relief, hurricane relief, humanitarian evacuation) comes by sea**
- **To defend our nation, to maintain freedom of the seas, to pursue our national interests, we need a very capable anti-submarine warfare force**

The Operational Environment has Changed

- **The threat has changed**
 - **Submarines are quieter today than they were during the Cold War**
- **Where we operate has changed**
 - **Closer to land, rather than in open ocean**
 - **Relatively shallow water, very complex ocean environment**

Undersea Warfare Training is Critical

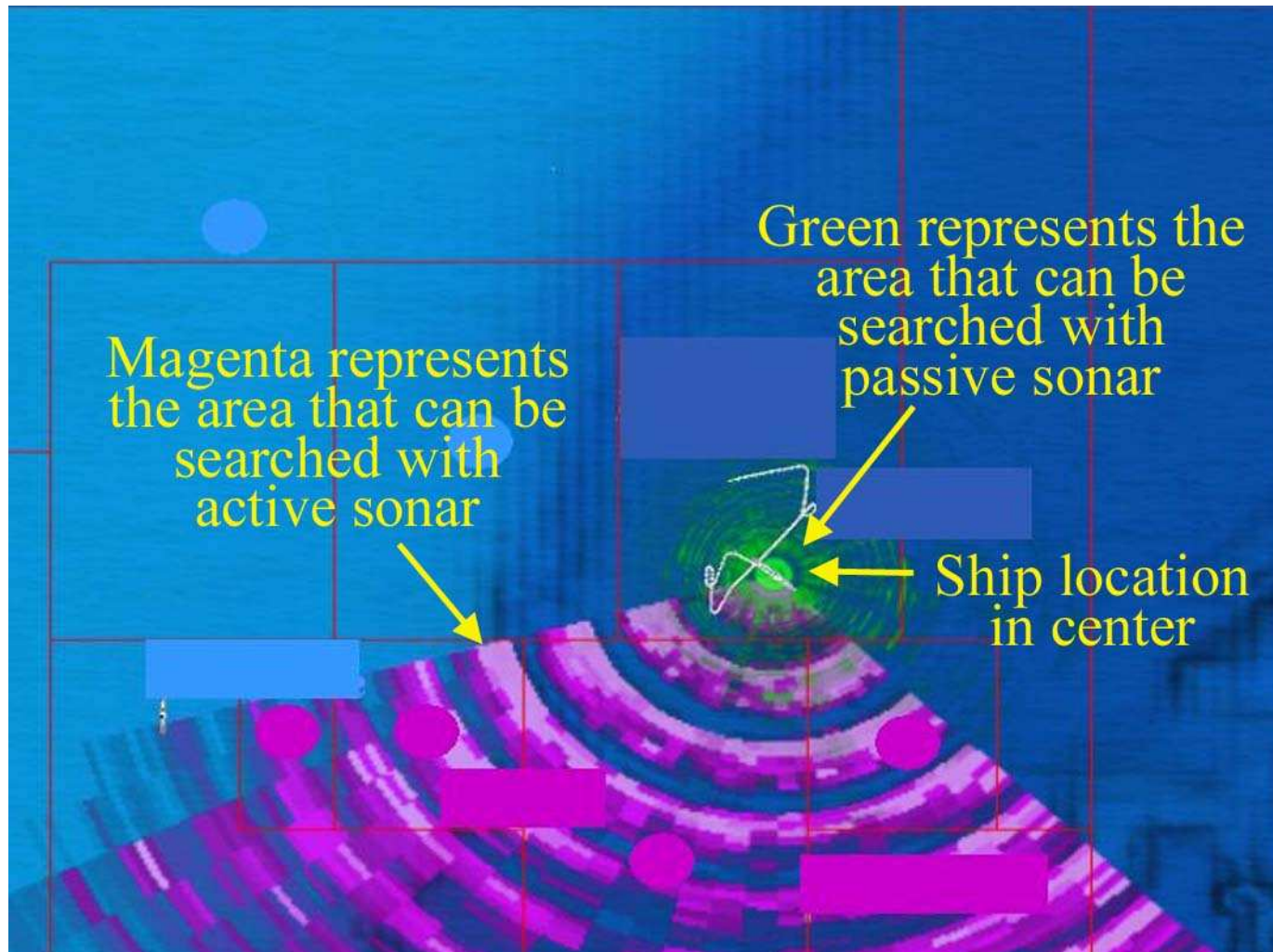
- **The ocean is a very complex environment**
 - Takes a highly trained operator
- **Computer simulated (synthetic) training is an important part of our training program, but simulated training alone is not sufficient**
- **We need to train in representative conditions**
 - Both to confirm our training adequacy and to validate our synthetic training models

Active Sonar Training is Important

- **Passive sonar (listening) increasingly less effective as submarines become quieter**
 - Frequently can't detect a submarine passively until he's close enough to shoot
- **Active sonar (pinging) is more effective**
 - Not affected by submarine quieting improvements
 - While passive detection ranges are closing in, active detection ranges are moving out
- **Training with active sonar in real-world environments is critical**

Why Do We Need Active Sonar?

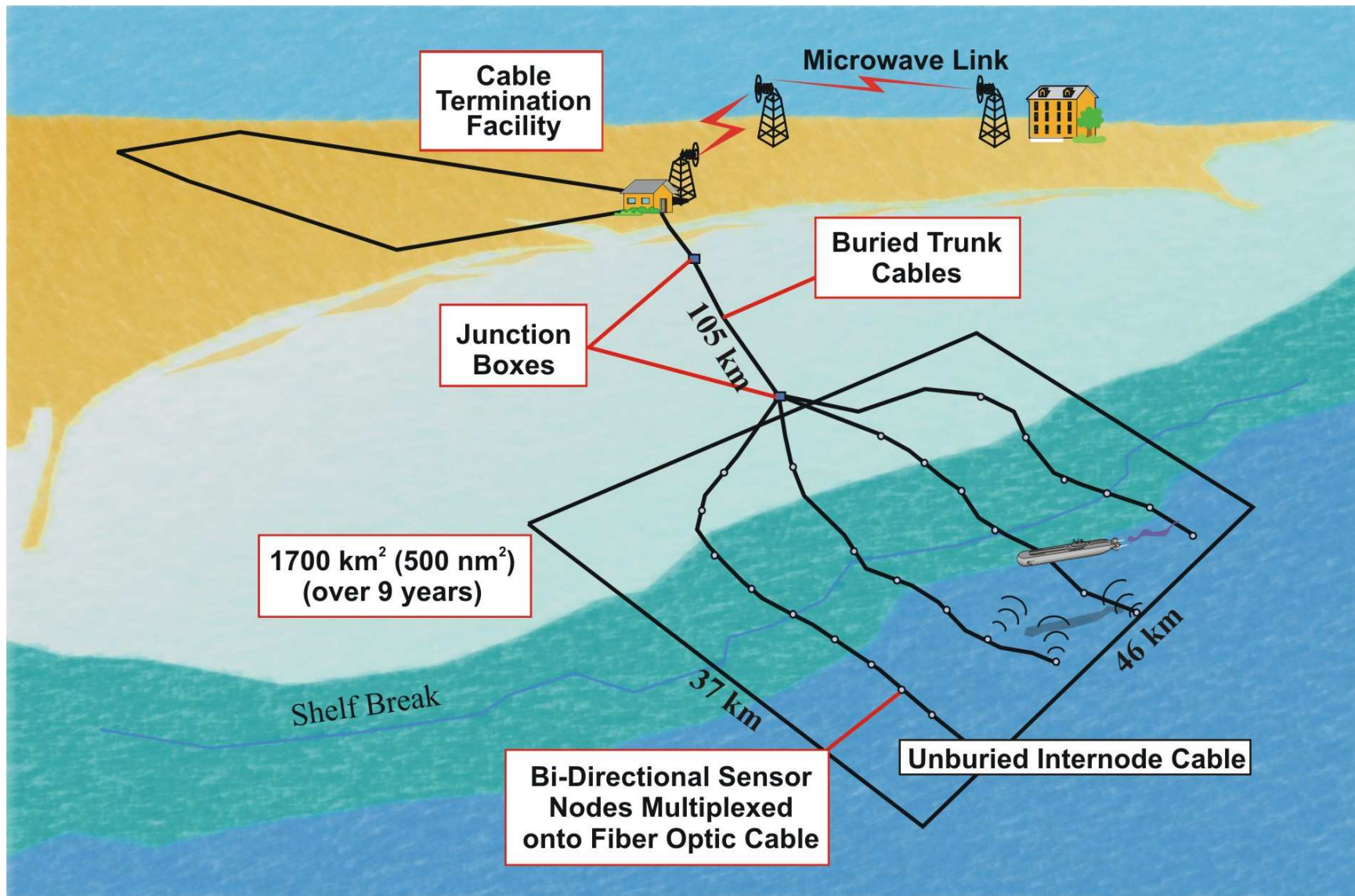
- Because submarines are getting quieter...



We Will Train in an Environmentally Responsible Manner

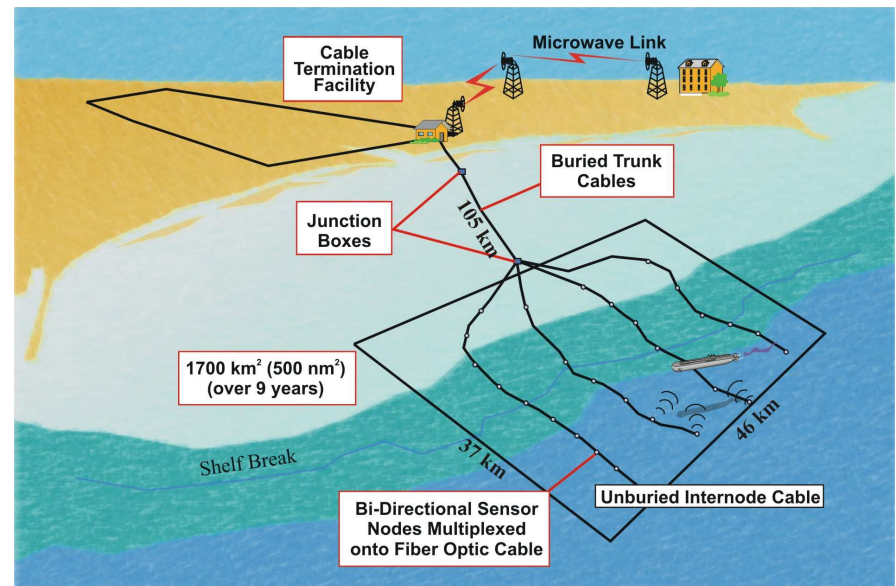
- **We will take common-sense preventive measures**
 - **We will search for marine mammals before beginning training events**
 - **We will listen for marine mammals using passive sonar, when available, before going active**
 - **We won't operate active sonar any more than we have to for training purposes**

Proposed Action: Establish USWTR



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- 500 nm² instrumented off-shore range with cables and sensors
- Water depth from 120 to 900 feet
- Buried cable connecting range to onshore facilities
- Onshore cable termination facility to receive and transmit data
- Construction schedule: 3 increments over a 9-year period (3 years per phase)



Proposed Action: Training on USWTR

- **Anti-submarine warfare exercises with submarines, ships, and aircraft**
- **Training targets**
 - **Submarines**
 - **Submarine surrogates (mechanical targets)**
- **Use active and passive sonar**
- **Non-explosive torpedo launches**

Alternatives: Site Selection Process

Step 1:

Screen East Coast and Gulf of Mexico for initial areas using size and depth criteria

Step 2:

Identify candidate sites within initial areas (Gulf of Mexico eliminated based on distance)

Step 3:

Screen candidate sites for three operational criteria:

- *Proximity to a federal airfield*
- *Suitable weather conditions*
- *Secure federal shore landing site*



Alternatives Evaluated

- **Three potential sites (A, B, C) identified and fully evaluated in Draft OEIS/EIS**
- **Site A is the Navy's preferred alternative**
 - **Best replicates potential threat environments**
 - **Proximity to homeport/ bases**



Potential Environmental Issues

- **Physical environment**
- **Ecological resources**
- **Acoustical environment**
- **Socioeconomic environment**
- **Cultural resources at sea**
- **Landside environment**
- **Coastal zone management**
- **Cumulative effects**

Acoustic Effects Overview

Acoustic effects analysis was extensive

No impact on:

- **Plankton and invertebrates**
- **Seabirds**
- **Sea turtles**
- **Pinnipeds (e.g. seals) and manatees**

Analysis focused on whales and dolphins

Minimal impact on fish

Minimal Acoustic Effects on Fish and Fish Habitat

No evidence that exposure to intermittent loud sounds leads to any long-term, significant behavioral disruptions

Lower range of mid-frequency sonar is within the hearing range of most fish

- May temporarily interfere with orientation and communication**

- Some fish may respond behaviorally**

- No evidence that mid-frequency sonar kills fish**

Mid-frequency acoustic devices are used in gill net fisheries to deter marine mammals and the fish either do not hear them or are not disturbed by the sound

The Navy will continue to collect available data to expand the EIS analysis

Laws and Regulations

Magnuson-Stevens Fishery Conservation and Management Act (1996 amendments - Essential Fish Habitat)

**Marine Mammal Protection Act (MMPA)
requires authorization for actions that might
“harass” marine mammals**

**Endangered Species Act (ESA) requires
federal agencies to consult for actions that
may affect threatened and endangered
species**

Evaluating Acoustic Effects to Marine Mammals

Acoustic effect modeling considered multiple inputs:

- Acoustic source levels
- Oceanographic characteristics
- Species densities
- Impact thresholds/criteria

Impact thresholds/criteria

- Determine the potential effects of mid-frequency sound on marine mammals
- Research what levels of sound may result in those effects
- Evaluate whether the effects of sound are considered harassment under MMPA

Compliance with Other Laws

Navy works with NMFS to ensure compliance:

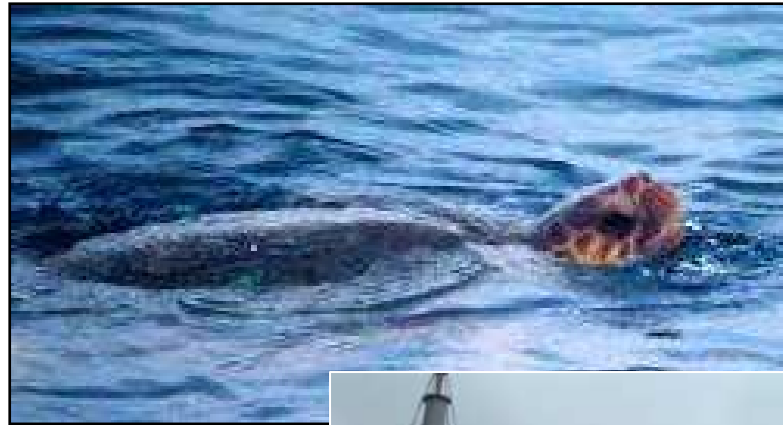
- ESA consultation required**
- MMPA authorization required**
 - Rulemaking by NMFS is a public process**
 - Rule/Authorization covers 5 year**
 - NMFS issues letter of authorization (LOA) annually**
- EFH consultation to be added**

Marine Species Mitigation

Mitigation Measures

Lookout training for observing marine species

Mitigation for range operations



- Lookouts on all ships, planes, and subs
- Passive acoustic detection by subs
- Sonar transmission levels reduced when marine mammals detected within 350 yds
- Protective measures during vessel transits for migrating North Atlantic right whales



Landside construction

- Protection of sea turtle nests (Site A, C) and protected plants (Site A)

Long-Term Marine Species Monitoring and Conservation

Long-term monitoring program and conservation measures



- **Baseline population studies for 2 years prior to range operations**
- **Continued evaluation of population trends over time and reporting to National Marine Fisheries Service**
- **Research support to improve the understanding of effects of sound on marine species**

Schedule

Draft OEIS/EIS Available	October 2005
Public Meetings	November 2005
End of Comment Period	December 28, 2005
Final OEIS/EIS Available	Summer/Fall 2006
Record of Decision	Fall 2006

Public Comments

Comments to date (fish/fishing):

- Clarify range access and community coordination
- Expand evaluation of acoustic effects on fish
- Provide more detail on potential construction effects on live/ hardbottom habitat and compatibility of instrumentation with groundfishing

Comments should be submitted in writing

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Acoustic Model Results: Behavioral Effects

Annual MMPA Level B Harassment Estimates

Site A – 969 total exposures (15 for 2 ESA species)

Site B – 1203 total exposures (49 for 5 ESA species)

Site C – 520 total exposures (0 for ESA species)

**All raw acoustic exposure estimates are
without consideration for mitigation**

**Harassment ‘zone’ generally within 350 yards of
surface ships**

**Lookouts very effective for visual surveys this close
to ship**

Acoustic Model Results: Beaked Whales

Specific mechanisms leading to beaked whale strandings that may be associated with mid-frequency sonar are not understood

Navy participated in a complete investigation of a beaked whale stranding in the Bahamas (year 2000)

Therefore, beaked whales predicted to receive sound exposure that may cause behavioral effects (Level B) are considered as potential injury, or Level A harassment

Level A harassment annual estimates for all sites:

- Site A - 29 beaked whales
- Site B - 3 beaked whales
- Site C - 40 beaked whales